National Aeronautics and Space Administration

NASA's Impact in Washington: A Tech Transfer Perspective

You know that NASA studies our planet, our sun, the solar system, and the Universe.
But did you know about the space program's economic impact here on Earth?

In 2011, NASA invested nearly **$46 million** in the state of Washington.

Since 2001, NASA's SBIR/STTR Program has invested
$22 million in **27 Washington companies**
and more than **$1.2 billion** nationwide.

How NASA's SBIR/STTR Program Benefits Washington

NASA is committed to moving technologies and innovations into the mainstream of the U.S. economy, and the Small Business Innovation Research/Small Business Technology Transfer (SBIR/STTR) program helps fulfill this goal.

SBIR/STTR stimulates technological innovation by encouraging small, high-tech companies—particularly minority and disadvantaged businesses—to partner with NASA to help meet its research and development needs in key technology areas. At the same time, this program strengthens small companies by enabling them to bring cutting-edge new products into the U.S. economy.

The list to the right highlights Washington businesses that received SBIR/STTR contracts from NASA since 2001. **(Visit http://sbir.nasa.gov for more information on the SBIR/STTR program.)**

NASA SBIR/STTR Companies in Washington

Aculight Corporation	Bothell
Amnis Corporation	Seattle
Andrews Space, Inc.	Tukwila
Beck Engineering, Inc.	Port Orchard
Cascade Engineering Services, Inc.	Redmond
CryoFuel Systems, Inc.	Monroe
Eagle Harbor Technologies, Inc.	Seattle
GoldSim Technology Group, LLC	Issaquah
Lightning Ridge Technologies	Seattle
Luxel Corporation	Friday Harbor
LVI Systems, Inc.	Richland
MicroVision, Inc.	Redmond
MSNW, LLC	Bellevue
Napneumatics, Inc.	Lynnwood
nLIGHT Corporation	Vancouver
Ormond, LLC	Auburn
Safeware Engineering Corporation	Seattle
Sequoia Scientific, Inc.	Bellevue
Sienna Technologies, Inc.	Woodinville
Stirling Dynamics, Inc.	Kirkland
Stirling Technology Company	Kennewick
TeamVision, Inc.	Federal Way
Teranovi Technologies	Kirkland
Tethers Unlimited, Inc.	Bothell
TLG Aerospace, LLC	Seattle
Visual Editor Consultants	Richland

washington

How NASA Spinoffs Benefit Washington

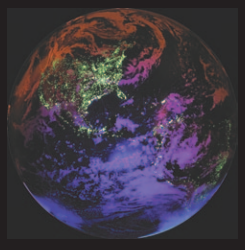
NASA-Proven Winglet Technology Saves Airline Industry Billions in Fuel Costs *(Seattle)*
Blended winglets, the upturned ends on many airplane wings, are among NASA's most visible fuel-saving, performance-enhancing technologies. Blended winglets reduce drag and generate additional forward thrust, leading to increased fuel economy. Aviation Partners Boeing (a joint venture of Aviation Partners, Inc. and The Boeing Company) manufactures and retrofits blended winglets for commercial airliners and predicts total fuel savings greater than 5 billion gallons by year-end 2014.

Fuel Cell Technology Automates Testing for Energy, Catalyst, Sensor Industries *(Battle Ground)*
Fuel cells onboard the space shuttles generated all of the electrical power needed for missions. NASA funding enabled development of these fuel cells and the techniques used to automate the testing process. TesSol, Inc. now offers testing modules to manufacturers and researchers in the energy, catalyst, and sensor industries. The versatility of the equipment lends itself to field reconfiguration, hardware, redundancy, and endurance testing.

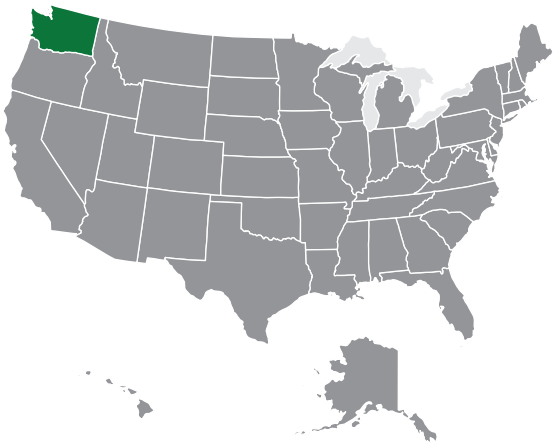
Patients Benefit from Space Tools to Measure Astronaut Health and Performance *(Issaquah)*
Technology designed to monitor the vital signs of astronauts in space is now used on Earth in telemetry systems for patient care management. Founded in 1958, SpaceLabs Healthcare worked with NASA on miniaturized signal conditioners to evaluate astronaut health and performance. Today, the company produces a suite of patient-care monitoring systems that provides clinicians with easy, immediate access to patient information across an entire organization.

Welding Tool Is Boon for Oil and Gas Drilling, Military Vehicle Construction *(Lynnwood)*
Nova-Tech Engineering, LLC received a co-exclusive license for a NASA-developed advanced welding technique. An auto-adjustable pin tool fully enables friction stir welding (FSW) for circumferential and tapered thickness welds, making FSW systems more precise and strong. Applications include rocket manufacturing, combat vehicle construction, and oil and gas drilling. Nova-Tech also supplies FSW systems to research organizations exploring ways to improve welding processes.

Technique Provides Critical Inspection Data for Defense, Aerospace, Energy Industries *(Redmond)*
Laser-based scanning and measurement systems advanced with NASA contracts are used in the defense, aerospace, and energy industries to detect and map cracks and defects in a variety of surfaces. Laser Techniques Company, LLC offers automated fluorescent penetrant inspection tools for real-time results. Applications for this versatile technology include detecting cracks in aircraft engine parts, corrosion in weapons systems, and fractures in nuclear steam generator tubes.



Collaboration Produces Photorealistic Giant Globes for Education, Exhibit Purposes *(Eastsound)*
Orbis World Globes produces giant inflatable globes in sizes from 1 to 100 feet in diameter that depict Earth as it is seen from space. The composite weather satellite image now printed on all Orbis globes was developed in collaboration with NASA. These globes are used for educational purposes and in exhibits ranging from trade shows, the Olympics, and United Nations events.



NASA actively seeks partnerships with U.S. companies that can license NASA innovations and create "spinoffs" in areas such as health and medicine, consumer goods, transportation, renewable energy, and manufacturing. When businesses leverage NASA technologies to develop new products, it not only benefits the regional economy, but significantly strengthens the nation's competitiveness in the global marketplace.

NASA's centers across the country have helped 82 Washington companies develop revolutionary spinoff technologies.

Learn more about how NASA innovations benefit the public in *Spinoff*, an annual publication that highlights NASA's most significant technology transfer successes.
(Available at: http://www.sti.nasa.gov/tto)

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NP-2012-01-830-HQ | 1.31.12